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PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	G. David Jang
Application No.:	09/925562
Filed:	August 9, 2001
For:	Intravascular Stent
Examiner:	Paul Preblich
Group Art Unit:	3738
Firm Docket No.:	S63.2N-8429-US03

## MAIL STOP APPEAL BRIEF PATENTS

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## FACSIMILE TRANSMITTAL LETTER

Following please find a(n) 28 PG Appeal Brief, 15 pg Appendix and and 1 page Facsimile Transmittal Letter is being resubmitted to place the Appeal Brief and documents in the correct file wrapper. On February 28, 2007 Applicant's attorney inadvertently faxed in the Appeal Brief for the above application under transmittal documents indicating Application No. 09/934310. Applicant's attorneys hereby request to ignore the earlier brief filed under 09/934310.

With respect to fees: ☐ No additional fee is believed to be required  
☒ Charge \$500.00 fee to our Deposit Account No. 22-0350

## Conditional Petition

If any extension of time for the accompanying response is required or if a petition for any other matter is required, applicant requests that this be considered a petition therefore.

If any additional fees associated with this communication are required and have not otherwise been paid, please charge the additional fees to Deposit Account No. 22-0350. Please credit overpayment associated with this communication to the Deposit Account No. 22-0350.

Respectfully submitted,  
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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Docket No.: S63.2-8429-US03

## BRIEF ON APPEAL

This is a Brief on Appeal for the above-identified application in which claims 34-36, 39-43, 47 and 49-59 were rejected in the Final Office Action mailed August 2, 2006. A Notice of Appeal was filed in this case on November 1, 2006. This brief is submitted in accordance with 37 C.F.R. § 41.37. The fees required under 37 C.F.R. § 41.20(b)(2) and any required petition for extension of time for filing this brief therefore are dealt with in the accompanying Transmittal Letter.

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**(i) Real Party in Interest**

The application is assigned to Scimed Life Systems, Inc., One Scimed Place, Maple Grove, MN 55311-1566, a Minnesota Corporation and a subsidiary of Boston Scientific Corporation, One Boston Scientific Place, Natick, Massachusetts, 01760-1537, a Delaware Corporation.

**(ii) Related Appeals and Interferences**

At present related applications 10/123,883 and 10/374,774 are currently under appeal. Prior appeals for related applications were filed for applications 09/925,562 and 10/080,289. Please note however, Applicant submits herewith notice to the USPTO that the present Application, and/or related Applications and patents, is currently the subject of, or relevant to litigation. More specifically, litigation is underway in the United States District Court for the Central District of California (Eastern Division-Riverside) involving G. David Jang versus Boston Scientific Corporation and Scimed Life Systems, Inc. (Civil Action Number: 05-00426). Litigation is also underway in the United States District Court for the District of Delaware between Boston Scientific Scimed Inc., and Boston Scientific Corporation versus Cordis Corporation and Johnson and Johnson Inc. (Civil Action Number: 03-283-SLR). Litigation is also underway in the United States District Court for the District of Delaware between Boston Scientific Scimed Inc., and Boston Scientific Corporation versus Conor Medsystems Inc. (Civil Action Number: 05-768-SLR).

**(iii) Status of claims**

Claims 34-36, 39-43, 47 and 49-59 are pending and have been rejected. Claims 1-33, 37-38, 44-46, and 48 have been cancelled. Claims 60-62 have been withdrawn from consideration. The claims that are being appealed are 34-36, 39-43, 47 and 49-59.

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**(iv) Status of amendments**

An amendment filed November 11, 2005 was entered by the Examiner. A proposed amendment after final rejection filed on September 5, 2006 was not entered. There have been no further amendments since September 5, 2006.

**(v) Summary of claimed subject matter**

*The following summary of Claim 34 is applicable to the discussion of claims 34-36 and 47.*

**Claim 34** pertains to a stent (10) constructed from a metal tube which comprises (Page 25 lines 17-23):

a plurality of interconnected first expansion struts (28) which together form a first serpentine expansion column (24) (Page 5 lines 3-4);

a plurality of interconnected second expansion struts (28) which together form a second serpentine expansion column (24) (Page 5 lines 27-28);

a plurality of interconnected third expansion struts (28) which together form a third serpentine expansion column (24) (Page 9 lines 28-29);

a first connecting strut column (26) (Page 6 line 19); and

a second connecting strut column (26) (Page 6 line 25).

The first, second, and third serpentine expansion columns (24) each have a proximal end region (Page 9 lines 20-22), a distal end region (Page 9 lines 20-22), and define a continuous closed path about the circumference of the stent (10). (Page 9 lines 24-30).

The first connecting strut column (26) comprises a plurality of first connecting struts (38). (Page 6 line 19). Each first connecting strut (38) has a first end (198), a second end (194), and at least one curved region (196) between the first and second ends. (Page 20 Lines 17-24). These first ends (198) extend proximally from a connection location at the distal end region of the first serpentine expansion column (24) which is closer to one first expansion strut (28) than to any other first expansion strut (28). (Page 218 line 32 to Page 19 line 2). These second ends (194) extend distally from a connection location at the proximal end region of the second serpentine expansion

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column (24) which is closer one second expansion strut (28) than any other second expansion strut (28). *Id.* The at least one curved region (196) is non-parallel to the longitudinal axis of the stent (10). (Page 21 lines 2-4). The connection locations of the first (198) and second (194) ends of the first connecting strut (38) are longitudinally and circumferentially offset from one another. (Page 21 lines 12-17). The first and second serpentine expansion columns (24) are connected to each other only by first connecting struts (38). (FIG. 9B).

The second connecting strut column (26) comprises a plurality of second connecting struts (38). (Page 6 line 19). Each second connecting strut (38) has a first end (198), a second end (194), and at least one curved region (196) between the first and second end. (Page 20 Lines 17-24). These first ends (198) extend proximally from a connection location at the distal end region of the second serpentine expansion column (24) which is closer to one second expansion strut (28) than to any other second expansion strut (28). (Page 218 line 32 to Page 19 line 2). These second ends (194) extend distally from a connection location at the proximal end region of the third serpentine expansion column (24) which is closer one third expansion strut (28) than any other third expansion strut (28). *Id.* The at least one curved region (196) between the first end (198) and the second end (194) of the second connecting strut (38) is non-parallel to the longitudinal axis of the stent. (Page 21 lines 2-4). The connection locations of the first (198) and second (194) ends of the second connecting strut (38) are longitudinally and circumferentially offset from one another. (Page 21 lines 12-17). The second and third serpentine expansion columns (24) are connected to each other only by second connecting struts (38). (FIG. 9B).

*The following summary of Claim 39 is applicable to the discussion of claims 39-43.*

**Claim 39** pertains to a stent (10) constructed from a metal tube (Page 25 lines 17-23) comprising:

a first serpentine expansion column (24) formed from a plurality of interconnected first expansion struts (28) (Page 5 lines 3-4);

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a second serpentine expansion column (24) formed from a plurality of interconnected second expansion struts (28) (Page 5 lines 27-28);

a third serpentine expansion column (24) formed from a plurality of interconnected third expansion struts (28) (Page 9 lines 28-29);

a first connecting strut column (26) positioned between the first and second serpentine expansion columns (24) (Page 6 line 19);

a second connecting strut column (26) positioned between the second and third serpentine expansion columns (24) (Page 6 line 25); and

a plurality of first geometric cells (40) formed by the first and second serpentine expansion columns (24) and the first connecting strut column (26) (Page 10 lines 12-14).

The first, second, and third serpentine expansion columns (24) each have a proximal end region (Page 9 lines 20-22), a distal end region (Page 9 lines 20-22), and each defines a continuous closed path about the circumference of the stent. (10). (Page 9 lines 24-30). The first second and third expansion struts each have a proximal end and a distal end.

The first connecting strut column (26) comprises a plurality of first connecting struts (38) which are flexible. (Page 13 lines 15-16). Each first connecting strut (38) has a first end (194) extending from the distal end region of the first expansion column (24) and a second end (198) extending from the proximal end region of the second expansion column (24). (Page 20 lines 17-24). Each first connecting strut (38) also has at least one curved portion (196). (Page 21 lines 2-4).

The second connecting strut column (26) comprises a plurality of second connecting struts (38) which are flexible. (Page 13 lines 15-16). Each second connecting strut (38) has a first end (194) extending from the distal end region of the second expansion column (24) and a second end (198) extending from the proximal end region of the third expansion column (24). (Page 20 lines 17-24). Each second connecting strut (38) also has at least one curved portion (196). (Page 21 lines 2-4).

Each first geometric cell (40) has a proximal region extending between two adjacent interconnected first expansion struts (28), a distal region extending between

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two adjacent interconnected second expansion struts (28), and a middle region extending between two adjacent first connecting struts (38) and between portions of the first and second expansion columns (24). (Page 11 lines 14-24) The proximal region and the distal region of each first geometric cell (40) are circumferentially offset from one another. (Page 11 lines 16-17). All other cells (40) in the stent (11) have the same geometric shape as first geometric cells (40). (Page 11 lines 20-24 and FIG. 2A).

**Claim 49** pertains to an unexpanded stent (10) constructed from a tube comprising (Page 25 lines 17-23):

A plurality of interconnected first expansion struts (28), second expansion struts (28), and first connecting struts (38). (Page 6 line 19).

The plurality of interconnected first expansion struts (28) which together form a closed, continuous first expansion column (24) and a plurality of interconnected second expansion struts (28) which together form a closed, continuous second expansion column (24). The expansion struts (28) each have a proximal end region (Page 9 lines 20-22) and a distal end region (Page 9 lines 20-22). Each expansion strut (28) is connected at a proximal end (194) to an adjacent expansion strut (28) and at a distal end (198) to another adjacent first expansion strut (28). (Page 9 line 20-22).

A first connecting strut column (26) is comprised of the plurality of first connecting struts (38). (Page 6 line 19). Each first connecting strut has a first end (194) extending from the distal end region of the first expansion column at a location in closer proximity to one first expansion strut than to any other of the plurality of first expansion struts. (Page 218 line 32 to Page 19 line 2).

Each first connecting strut (38) includes a first end and a second end. (Page 20 lines 17-24). The first end is connected to the first expansion column at a first connection location and the second end connected to the second expansion column at a second connection location which is longitudinally and circumferentially offset from the first connection location. (Page 21 lines 12-17). Each first connecting strut (38) also includes a portion which extends in a longitudinal direction toward the second expansion column (24) and in a circumferential direction away from the two first expansion struts

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(28) which are distally interconnected and nearest to the first end of the first connecting strut. (FIG. 8E).

Each connecting strut also includes a portion which extends in a longitudinal direction toward the second expansion column (24) and in a circumferential direction toward the two first expansion struts (28) nearest to the first end of the connecting strut (38). (FIG. 8E).

**Claim 50** pertains to an unexpanded stent (10) constructed from a tube comprising (Page 25 lines 17-23):

A plurality of interconnected first expansion struts (28), a plurality of interconnected second expansion struts (28), and a plurality of interconnected third expansion struts (38). (Page 6 line 19).

The plurality of interconnected first expansion struts (28) and second expansion struts (28) respectively form a closed, continuous first and second expansion columns (24) each of which have a proximal end region and a distal end region. (Page 5 lines 3-4). Each first and second expansion strut (28) is connected at a proximal end to one respective adjacent first and second expansion strut (28) and at a distal end to another respective first and second first expansion strut (28). (Page 9 line 20-22).

The plurality of interconnected third expansion struts (28) also form a closed, continuous third expansion column (24) having a proximal end region and a distal end region. Each third expansion strut (28) is connected at a proximal end to one adjacent third expansion strut (28) and at a distal end to another adjacent third expansion strut (28). (Page 9 line 20-22).

The first and second expansion columns (24) are interconnected by a first connecting strut column (26) consisting of a plurality of first connecting struts (38). (Page 6 line 19). Each first connecting strut (38) has a first end extending from the distal end region of the first expansion column (24) at a location in closer proximity to one first expansion strut (28) than to any other of the plurality of first expansion struts (28). (Page 218 line 32 to Page 19 line 2). Each first connecting strut (38) also has a second end which is connected to the second expansion strut column (24) at a second location, the



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first and second locations longitudinally and circumferentially offset from one another.  
(Page 21 lines 2-4).

The second and third expansion columns (24) are interconnected by a second connecting strut column (26) consisting of a plurality of second connecting struts (38). (Page 6 line 19). Each second connecting strut (38) has a first end extending from the distal end region of the second expansion column (24) at a location in closer proximity to one second expansion strut (24) than to any other of the plurality of second expansion struts (28). (Page 218 line 32 to Page 19 line 2). Each second connecting strut (38) also has a second end which is connected to the third expansion strut column (24) at a second location, the first and second locations longitudinally and circumferentially offset from one another. (Page 21 lines 2-4).

The first and second expansion strut columns (24) are connected to one another only via the first connecting strut column (26) and the second and third expansion strut columns (24) are connected to one another only via the second connecting strut column (26). (FIG. 9B).

*The following summary of Claim 51 is applicable to the discussion of claims 51-57 and 59.*

**Claim 51** pertains to an unexpanded stent (10) constructed from a tube comprising (Page 25 lines 17-23):

- a first expansion column (24) (Page 5 lines 3-4);
- a second expansion column (24) (Page 5 lines 27-28);
- and a first connector column (26) (Page 6 line 19).

The first expansion column (24) has a plurality of first expansion strut pairs (32). (Page 11 lines 25-27). Each first expansion strut pair (32) includes two interconnected first expansion struts (28). (Page 11 lines 20-24). Each first expansion strut pair (32) is open at a proximal end (36) of the first expansion column (24) (Page 12 lines 30-32) and is closed at a distal end (30) of the first expansion column. (Page 12 lines 27-29). The first expansion column (24) defines a continuous closed path about the circumference of the stent (10). (Page 9 lines 24-30).

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The second expansion column (24) has a plurality of second expansion strut pairs (32). (Page 11 lines 25-27). Each of the second expansion strut pairs (32) includes two interconnected second expansion struts (28). (Page 11 lines 20-24). Each second expansion strut pair (28) is open at a distal end of the second expansion column and closed at a proximal end of the second expansion column. (FIG. 3A) The second expansion column (24) is distal to the first expansion column (24). (Page 10 Lines 2-6). The second expansion column (24) defines a continuous closed path about the circumference of the stent (10). (Page 9 lines 24-30).

The first connector column (26) has a plurality of first connectors (38). (Page 6 line 19). Each of the first connectors (38) extends from a distal end region (198) of one first expansion strut pair (32) to a proximal end region (194) of one second expansion strut pair (32). (Page 6 line 19). Each of the first connectors (38) also directly connects the one first expansion strut pair (32) to the one second expansion strut pair (32). *Id.* One of the second expansion strut pair (32) has a second expansion strut (28) which is collinear with one of the first expansion struts (28) of the one first expansion strut pair (32) to which it is connected. (Page 14 Lines 12-14). A first end of the first connector (38) connects to the first expansion strut pair (32) at a location which is longitudinally and circumferentially offset from a location at which the second end of the first connector (38) connects to the second expansion strut pair (32). (Page 21 lines 12-17).

**(vi) Grounds of Rejection to be Reviewed on Appeal**

- 1) Whether claims 34-36, and 47 are unpatentable under *35 USC § 102(e)* for being anticipated by US 5,449,373 (hereinafter Pinchasik).
- 2) Whether claims 39-43 are unpatentable under *35 USC § 102(e)* for being anticipated by US 5,449,373 (hereinafter Pinchasik).
- 3) Whether claims 49 and 50 are unpatentable under *35 USC § 103(a)* for being obvious over Pinchasik in view of US 6,156,052 (hereinafter Richter).
- 4) Whether claims 51-57 and 59 are unpatentable under *35 USC § 102(e)* for being anticipated by US 5,776,161 (hereinafter Globberman).

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5) Whether claims 51, 52, 54, 55, and 57-59 are unpatentable under 35 USC § 102(e) for being anticipated by US 6,348,065 (hereinafter Brown).

**(vii) Argument**

**1. Whether claims 34-36, and 47 are unpatentable under 35 USC § 102(e) for being anticipated by Pinchasik**

According to 35 USC § 102(e)(2), an inventive concept is anticipated only if every described limitation recited in the claims is described in a granted patent. Verdegaal Bros. v. Union Oil Co. of California, 2 U.S.P.Q.2d 1051, 1053, 814 F.2d 628, 631 (Fed. Cir. 1987). Pinchasik does not describe every limitation of the inventive concept present in claims 34-36 and 47. Specifically, Pinchasik does not disclose ends of connecting struts which are closer to one strut of a strut pair than to any other strut. Pinchasik instead discloses a stent in which the ends of the connecting struts are located in between the two struts of a strut pair. Pinchasik explicitly states that the strut pairs form diamond shaped cells and that the ends of the connectors are connected at the apex of these cells. (Pinchasik Col. 3 lines 34-36). The apex of these cells are evenly between the strut pairs and not at a location closer to one of the struts of the strut pairs. (Pinchasik Col. 3 lines 39-43).

Applicant and Examiner do not dispute this characterization of Pinchasik but do dispute the meaning of the term "end" as used in the claims. Examiner's position, which is supported by neither a dictionary definition nor the Specification, is that the "end" of a connector spans from the very tip of the connector to the middle of the connector. Using this definition the examiner stated that because some portion of the connector in Pinchasik between the tip and the middle of the connector is closer to one strut of the pair than to another, it reads on claim 34. This interpretation of the term "end" is wrong and instead the term "end" should be understood to mean the tip or edge of an item because: a) this is how the term is described and understood according to its use in the Specification and b) Examiner's incorrect interpretation is in conflict with the meaning of the term "end" as defined in English language dictionaries.

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**1a) Examiner's incorrect interpretation contradicts the meaning of "end" as it is used throughout the Specification**

Examiner's interpretation of the term "end" is wrong and is not in keeping with the MPEP. MPEP section 2111 states:

During patent examination, the pending claims must be "given their broadest *reasonable* interpretation consistent with the specification." (*emphasis added*)...

The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach.

The Examiner's interpretation of the term 'end' is inconsistent with the usage of the term in the specification, is not reasonable and, moreover, is inconsistent with the interpretation that those skilled in the art would reach. The repeated and consistent use of the term "end" in the Specification clearly contradicts Examiner's interpretation. "End" is used repeatedly and consistently throughout the Specification. As the following examples show, in every use "end" has a meaning which is not compatible with the Examiner's interpretation of up to the midpoint of an object:

In Page 20 lines 16-24 where FIG. 9D is discussed, the Specification makes clear that the connector comprises three sections, a proximal end (194), a distal end (198) and an intermediate section (196) between the proximal and distal ends. Both this portion of the Specification and FIG. 9D are explicit in their description of "ends" as portions that fall far short of extending up to the middle of the connector and only comprise a portion of the connector close to the where the connector is joined to an adjacent expansion column.

In Page 12 lines 30-33 where FIGs. 3A and 3B are described, the Specification describes the open "end" (36) of a strut pair. FIGs. 3A and 3B clearly illustrate that the open "end" of the strut pair can only be at the very tip of the strut and cannot extend up to the middle because the middle of the strut is solid and can not be open.

Similarly in Page 14 lines 7-19 where FIGs. 4A and 4B are described, the specification describes the connector which spans between strut pairs as extending from a distal "end" to a proximal "end". FIGs. 4A and 4B however clearly show that the "ends"

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can only be at the very tips. If the Examiner's interpretation were used then the strut pairs could both be positioned at the middle of the connector and would place them in contact with each other leaving no room for the connector to connect them. FIGs. 4A and 4B clearly show that the "end" of the connector is the tip and that an "end" cannot extend up to the middle of the connector.

Lastly in page 16 lines 12-22 where FIGs. 6A and 6B are described, the importance of special reinforcements at both "ends" is discussed. According to Examiner's interpretation, because both "ends" encompasses everything between both tips and the middle it would encompass the entire length. This would give no meaning to the reinforcement as reinforcement is a relative term and if all of the length is equally strong no one portion can be said to be reinforced relative to another. In addition FIGs. 6A and 6B illustrate the reinforcement only at the tip of the length. For at least these reasons, the use of the term "end" in the specification clearly contradicts the interpretation given to the term by the Examiner.

**1b) Examiner's incorrect interpretation contradicts the meaning of "end" as it is defined in the dictionary**

The Examiner's interpretation of the term 'end' is inconsistent with the usage of the term in the specification and is inconsistent with dictionary definitions of the term. To that end, we note that dictionary definitions of "end" include:

- the last part or extremity, lengthwise, of anything that is longer than it is wide or broad, as in: *the end of a street; the end of a rope.* a point, line, or limitation that indicates the full extent, degree, etc., of something; limit; bounds, as in: *kindness without end; to walk from end to end of a city.*
- a part or place at or adjacent to an extremity, as in: *at the end of the table; the west end of town.*
- the furthestmost imaginable place or point, as in: *an island at the very end of the world.*
- termination; conclusion, as in: *The journey was coming to an end.*

"End". Dictionary.com. *Dictionary.com Unabridged* (v 1.0.1), Based on the Random House Unabridged Dictionary, © Random House, Inc. 2006.

<http://dictionary.reference.com/browse/end> (accessed: November 09, 2006).

A common factor in ALL definitions of "end" is that it refers to a limit or extreme and NEVER includes the center or midpoint. Examiner's interpretation seems to

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invent a definition not present in the English language or known to the rest of the Anglophonic world. Examiner seems to be confusing the word "end" with terms such as "side" or "half". Because defining "end" synonymously with "side" or "half" gives "end" a meaning which is not compatible with the English language understanding of the term "end" it is incorrect.

**1c) Conclusion to 35 USC § 102(e)(2) Pinchasik Rejection Argument**

Examiner's interpretation of the term "end" to include everything between the tip and middle is without rational explanation. It is neither supported nor even compatible with the use of the word "end" in the Specification and it cannot be found in an English language dictionary. Because use of the clearly correct definition of "end" to interpret claim 34 describes an embodiment not disclosed in Pinchasik, the 35 USC § 102(e) rejection was in error.

**2. Whether claims 39-43 are unpatentable under 35 USC § 102(e) for being anticipated by Pinchasik**

Examiner utilized the same blanket argument for rejecting claims 39-43 that was used to reject claims 34-36 and 47. (08/08/2006 Office Action, Page 3 ¶ 1). This rejection, as previously discussed above, discusses the relative proximity of connecting strut ends to one strut of a strut pair. Claims 39-43 however do not contain this limitation and instead are directed to different subject matter with limitations that Examiner has failed to identify as being described in Pinchasik. Specifically Claims 39-43 describe a stent in which the only geometric cells are cells with circumferentially offset proximal and distal portions. The 08/08/2006 Office Action is silent with regards to this claim limitation.

In a previously submitted amendment filed with the patent office on September 5, 2006 Applicant attempted to withdraw claims 39-43. This amendment however was not entered. In order to reduce the scope of the dispute between Applicant and Examiner, accompanying this Appeal Brief is a proposed Amendment which withdraws these claims.

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**3. Whether claims 49 and 50 are unpatentable under 35 USC § 103(a) for being obvious over Pinchasik in view of Richter**

To support an obviousness rejection under 35 USC § 103, the cited prior art must specifically suggest the combination as claimed, and it must be applied in the context of their significance to a technician at the time the invention was made, without knowledge of the solution. It is impermissible, simply to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template, picking and choosing among isolated disclosures in the various documents to supply elements to fill the gaps. The cited documents themselves must provide some teaching whereby the applicant's combination would have been obvious, again at the time the invention was made. US patent law is replete with cases that illustrate this principle. See e.g. In re Fine, 37 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988); In re Oetiker, 977 F.2d 1446, 1446 24 U.S.P.Q.2d 1443, 1446, (Fed. Cir. 1992); In re Fritch, 972 F.2d 1260, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992); In re Kotzab, 217 F.3d 1365, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000); and In re Dembiczak, 175 F.3d 994, 50 U.S.P.Q.2d 1614 (Fed. Cir.1999). The Examiner has not made the requisite showing.

As mentioned in Section 1 of these arguments, Pinchasik does not disclose a stent in which the ends of the connecting struts are closer to one strut of a strut pair than to any other strut. Similarly, Richter also does not make such a disclosure and was only cited by the Examiner to disclose a different limitation in the claim language (the proximal and distal ends of one strut being connected to different struts). (08/02/2006 Office Action Page 5 ¶ 1). Because Richter and Pinchasik whether viewed individually or in combination do not disclose a limitation in the claims, the 35 USC § 103(a) rejection is in error.

**4. Whether claims 51-57 and 59 are unpatentable under 35 USC § 102(e) for being anticipated by Globerman**

Globerman does not anticipate claims 51-57 and 59 because Globerman does not describe every limitation of the inventive concept present in claims 51-57 and 59. Specifically Globerman does not disclose the collinear feature of the claims.

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For at least this reason the 35 USC § 102(e)(2) rejection of claims 51-57 and 59 is in error.

The claims require that the one second expansion strut pair have a second expansion strut which is collinear with one of the first expansion struts of the one first expansion strut pair to which it is connected. Examiner maintains that the following dictionary definition of "collinear" should be used:

*passing through a single line: lying on or passing through a single line.*

Examiner then misapplies this definition means by arguing that since any two struts can intersect a single line running through them, every strut in Globberman is collinear with every other strut. Examiner's position, however, is wrong because this interpretation is a) inconsistent with the specification and b) inconsistent with the understanding of one skilled in the art.

**4a) The Examiner Erred in not interpreting the term "collinear" as it is used in the Specification**

The term "collinear" is used at least 9 times in the specification. Two examples of its use are on Pages 10 and 11. On Page 10 lines 23-24 collinear is described as having corresponding portions (the open ends) which are positioned along a common axis and which are not being circumferentially offset from each other. On Page 11 lines 15-19 further limits the meaning of collinear to component portions (loop slots) which are positioned along a common axis and not within parallel axes.

Furthermore, Page 14 lines 7-19 and FIG. 4B describes an illustration that shows that the term "collinear" as used in the Specification means all of the components of a referenced straight body defines an axis which when extrapolated determines the location where all of the components of a second straight body will be. In FIG 4B a linear section and a joining strut are collinear with each other only because a single axis traverses through both the linear path of the joining strut and the linear path of the linear section. Specifically the distal end of the first linear section, the proximal end of the first linear section, the distal end of the first joining strut, and the proximal end of the first joining strut (all of the component parts) all lie along the exact same extrapolated path



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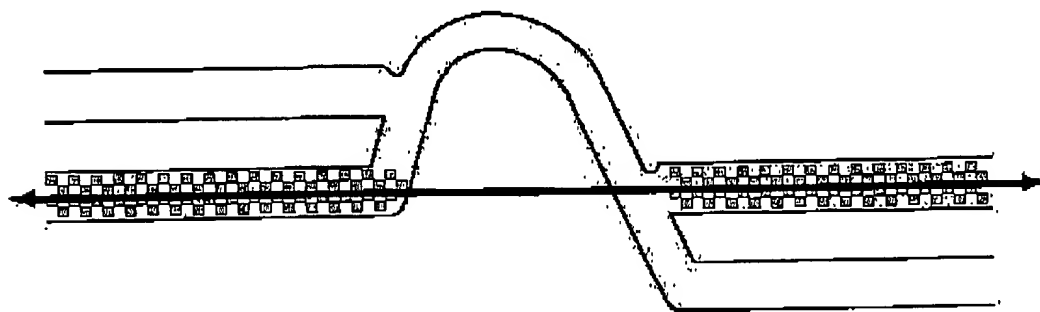
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and no other. The extrapolated path is illustrated as the line extending from the joining strut to reference line 66.

Interpreting the term "collinear" as done by Examiner to mean any two objects through which a single line can pass is utterly incompatible with the use of this term in the specification. To use such a meaning would indicate that parallel items and circumferentially offset items which the Specification explicitly says are not collinear (such as those described on Pages 10, 11, and 14) would in fact be collinear. For at least this reason, the Specification's definition must be used instead. Because according to Applicant's definition Globerman does not disclose collinear first and second struts, the rejection of claims 51-55 and 57 was in error and should be reversed.

**4b) Even according to Examiner's dictionary definition of "collinear" the struts in Globerman are not collinear**

The dictionary definition of the term "collinear" which the Examiner believes should be used is "passing through a single line: lying or passing through a *single* straight line". (08/02/2006 Office Action, Page 3 ¶ 3). According to this definition in order for Globerman to disclose the claimed embodiments, the first and second struts two objects must lie along the same single line. As will be shown in the following explanation, the first and second struts of Globerman in fact do not lie along the same single line. In addition, the first and second struts of Globerman are not "collinear" as the term is used in the art or as the term is rationally understood.

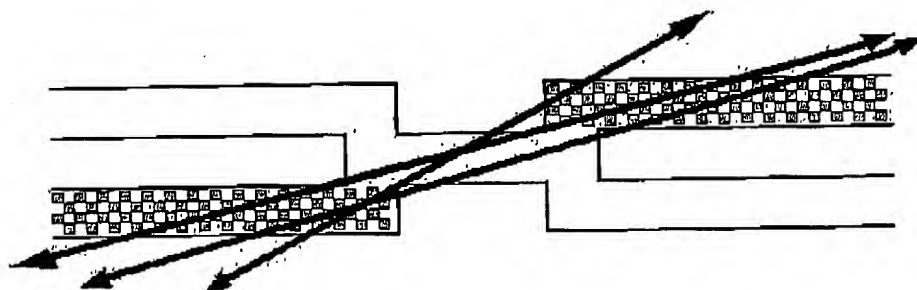


The above view of Applicant's FIG. 10A (in which the respective first and second struts are indicated by checkerboard boxes) illustrates and makes clear that the first and second

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struts both lie along a single line vector. In contrast as is shown in the following view of Globerman FIG. 15, the respective first and second struts do not lie along a single line vector.



Examiner has argued that since *a line* can be drawn which will cross at least some portion of the first and second struts, these struts are collinear. In truth as the view of Globerman FIG. 15 shows, an infinite number of lines can be drawn that cross some portion of each of the two struts. However, contrary to Examiner's assertions, the dictionary definition of collinear requires that the two struts cross *a single* line not an infinite multitude of lines. Because the dictionary requires the struts lie on a single line and Globerman's struts (unlike Applicant's) lie along multiple lines, Globerman's struts are not collinear.

In addition, Examiner's assertion that collinear means any two items which can be intersected by any number of lines is repugnant to the use of this term as understood by people of ordinary skill in the art. US 6,352,551, US 6,093,203, US 6,033,435, US 6,132,460, and US 5,669,880 are only a few of the numerous issued patents in the same art unit as Applicant's invention which use the term "collinear" in the exact same manner as in the Specification and which would make no sense if interpreted according to Examiner's interpretation.

Furthermore, Examiner's interpretation if taken to its logical conclusion renders the term "collinear" meaningless. This is because everything in existence is separated by a linear distance which can be spanned a line thus it is impossible for any two real objects not to be collinear. Because it is an undeniable fact that everything is not collinear with everything else, Examiner's interpretation of the term collinear is incorrect.

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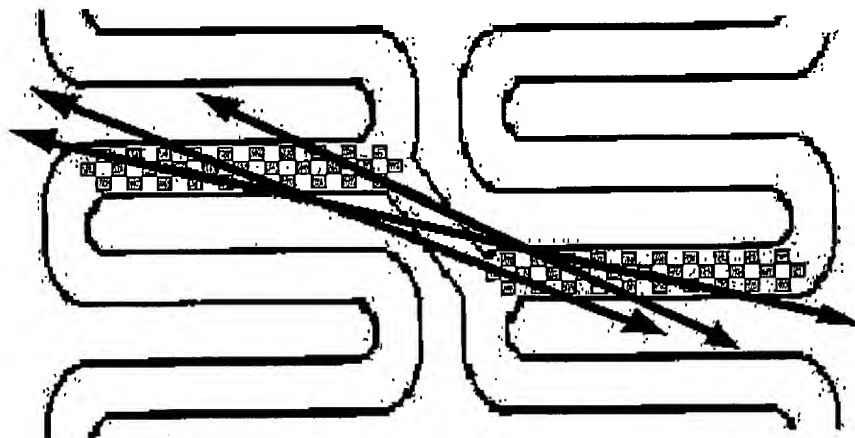
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**4c) Conclusion to 35 USC § 102(e)(2) Pinchasik Rejection Argument**

Only if "collinear" means that all of the components of two items can be intersected by only a single line vector, does the word "collinear" have any meaning at all. Because Examiner's interpretation of the term collinear is repugnant to the plainly understood meaning as used by persons of ordinary skill in the art and because it is incompatible with its use in the English language, it is wrong. Consequently, because Globerman's first and second struts are not collinear as the term is properly understood, Globerman does not describe the embodiments of claims 51-55 and 57.

**5. Whether claims 51, 52, 54, 55, and 57-59 are unpatentable under 35 USC § 102(e) for being anticipated by Brown**

Brown does not anticipate claims 51, 52, 54, 55, and 57-59 because Brown does not describe every limitation of the inventive concept present in claims 51-52, 54-55, and 57-59. Specifically for reasons similar to those explained in Argument 4, Brown does not does not disclose first and second expansion struts that are collinear.



As the above view of Brown FIG. 1 shows, Brown's first and second struts are not collinear because they are not intersected by a single line vector but by an infinite multitude of line vectors. Given the failure of Brown to teach collinear first and second struts, claims 51-52, 54-55, and 57-59 and 59 are not anticipated by Brown.

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**6. Conclusion**

The combined teachings of the cited patents fail to anticipate, teach or otherwise suggest the stent of claims 34-36, 39-43, 47, and 49-59. The Board is respectfully requested to reverse the rejections with instruction to pass the application to issue.

Respectfully submitted,

VIDAS, ARRETT & STEINKRAUS

Date: February 28, 2007

By: 

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**(viii) Claims Appendix**

**Claim 34.** A stent constructed from a metal tube, comprising:

a plurality of interconnected first expansion struts, the first expansion struts forming a first serpentine expansion column having a proximal end region and a distal end region, the first serpentine expansion column defining a continuous closed path about the circumference of the stent,

a plurality of interconnected second expansion struts, the second expansion struts forming a second serpentine expansion column having a proximal end region and a distal end region, the second serpentine expansion column defining a continuous closed path about the circumference of the stent,

a plurality of interconnected third expansion struts, the third expansion struts forming a third serpentine expansion column having a proximal end region and a distal end region, the third serpentine expansion column defining a continuous closed path about the circumference of the stent,

a first connecting strut column comprising a plurality of first connecting struts, each first connecting strut having a first end, extending from a connection location at the distal end region of the first serpentine expansion column which is closer to one first expansion strut than to any other first expansion strut, a second end extending from a connection location at the proximal end region of the second serpentine expansion column which is closer one second expansion strut than any other second expansion strut and at least one curved region between the first end and the second end of the first connecting strut, the first and second ends of the first connecting struts being non-parallel to the longitudinal axis of the stent, the connection locations of the first and second ends of the first connecting strut longitudinally and circumferentially offset from one another, the first and second serpentine expansion columns connected only by first connecting struts,

a second connecting strut column comprising a plurality of second connecting struts, each second connecting strut having a first end extending from a

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connection location at the distal end region of the second serpentine expansion column which is closer to one second expansion strut than to any other second expansion strut, a second end extending from a connection location at the proximal end region of the third serpentine expansion column which is closer one third expansion strut than any other third expansion strut and at least one curved region between the first end and the second end of the second connecting strut the first and second ends of the second connecting struts being non-parallel to the longitudinal axis of the stent, the connection locations of the first and second ends of the second connecting strut longitudinally and circumferentially offset from one another, the second and third serpentine expansion columns connected only by second connecting struts.

**Claim 35.** The stent of claim 34 wherein the first expansion struts and the first connecting struts are provided in a ratio, the ratio of the first expansion struts to the first connecting struts is 2:1.

**Claim 36.** The stent of claim 34 wherein the first expansion column comprises a plurality of joining struts in the distal end region and a plurality of joining struts in the proximal end region, the second expansion column comprises a plurality of joining struts in the distal end region and a plurality of joining struts in the proximal end region, and each first connecting strut has a first end which extends from a side of one joining strut in the distal end region of the first expansion column closer to one first expansion strut than to any other first expansion strut and a second end which extends from a side of one joining strut in the proximal end region of the second expansion column closer to one second expansion strut than to any other second expansion strut.

**Claim 39.** A stent constructed from a metal tube, the stent comprising:  
a plurality of interconnected first expansion struts, the first expansion struts forming a first serpentine expansion column having a proximal end region and a distal end region,  
a plurality of interconnected second expansion struts, the second expansion struts forming a second serpentine expansion column having a proximal end region and a distal end region, a plurality of interconnected third expansion struts, the third expansion struts forming a third serpentine expansion column having a proximal end region and a distal end region,

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the first, second and third serpentine expansion columns each defining a continuous closed path about the circumference of the stent;

a first connecting strut column comprising a plurality of first connecting struts which are flexible, each first connecting strut having a first end extending from the distal end region of the first expansion column and a second end extending from the proximal end region of the second expansion column and at least one curved portion, a second connecting strut column comprising a plurality of second connecting struts which are flexible, each second connecting strut having a first end extending from the distal end region of the second expansion column and a second end extending from the proximal end region of the third expansion column and at least one curved portion;

the first serpentine expansion column, the second serpentine expansion column and the first connecting strut column forming a plurality of first geometric cells about the circumference of the stent, each first geometric cell having a proximal region extending between two adjacent interconnected first expansion struts, a distal region extending between two adjacent interconnected second expansion struts and a middle region extending between two adjacent first connecting struts and portions of the first and second expansion columns, the proximal region and the distal region circumferentially offset from one another, the stent having only first geometric cells.

**Claim 40.** The stent of claim 39 wherein each first connecting strut includes at least two curved portions.

**Claim 41.** The stent of claim 40 wherein the first expansion struts and the first connecting struts are provided in a ratio, the ratio of the first expansion struts to the first connecting struts is 2:1.

**Claim 42.** A stent constructed from a metal tube, the stent consisting of a plurality of expansion columns each of which forms a closed pathway about the circumference of the stent, adjacent expansion columns connected to one another via connecting members, the stent expansion columns and connecting members forming a plurality of cells, each of the plurality of cells having substantially the same asymmetrical shape, each of the plurality of cells having a first end portion and a second end portion, the second end portion longitudinally and circumferentially offset from the first end portion, the first end portion

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connected to the second end portion via a plurality of connecting members each of which has a plurality of curved sections.

**Claim 43.** The stent of claim 42 where each connecting member has a first end and a second end which is circumferentially and longitudinally offset from the first end.

**Claim 47.** An unexpanded stent constructed from a metal tube, the stent comprising:  
a plurality of interconnected first expansion struts, the first expansion struts forming a first expansion column having a proximal end region and a distal end region, each first expansion strut connected at a proximal end to one first expansion strut adjacent thereto and at a distal end to another first expansion strut adjacent thereto;

a plurality of interconnected second expansion struts, the second expansion struts forming a second expansion column having a proximal end region and a distal end region, each second expansion strut connected at a proximal end to one second expansion strut adjacent thereto and at a distal end to another second expansion strut adjacent thereto;

the first and second expansion columns each defining a continuous closed path about the circumference of the stent;

a first connecting strut column comprising a plurality of first connecting struts, each first connecting strut having a first end extending from the distal end region of the first expansion column, at a first location in closer proximity to one first expansion strut than to any other of the plurality of first expansion struts, a second end extending from the proximal end region of the second expansion column at a second location in closer proximity to one second expansion strut than to any other of the plurality of second expansion struts, the first and second locations longitudinally and circumferentially offset from one another and at least one curved region between the first end and the second end of the connecting strut.

**Claim 49.** An unexpanded stent constructed from a metal tube, the stent comprising:  
a plurality of interconnected first expansion struts, the first expansion struts forming a closed, continuous first expansion column having a proximal end region and a distal end region, each first expansion strut connected at a proximal end to one first



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expansion strut adjacent thereto and at a distal end to another first expansion strut adjacent thereto;

a plurality of interconnected second expansion struts, the second expansion struts forming a closed, continuous second expansion column having a proximal end region and a distal end region, each second expansion strut connected at a proximal end to one second expansion strut adjacent thereto and at a distal end to another second expansion strut adjacent thereto; a first connecting strut column comprising a plurality of first connecting struts, each first connecting strut having a first end extending from the distal end region of the first expansion column at a location in closer proximity to one first expansion strut than to any other of the plurality of first expansion struts,

each first connecting strut including a first end and a second end, the first end connected to the first expansion column at a first connection location and the second end connected to the second expansion column at a second connection location which is longitudinally and circumferentially offset from the first connection location,

each first connecting strut including a portion which extends in a longitudinal direction toward the second expansion column and in a circumferential direction away from the two first expansion struts which are distally interconnected and nearest to the first end of the first connecting strut, each connecting strut including a portion which extends in a longitudinal direction toward the second expansion column and in a circumferential direction toward the two first expansion struts nearest to the first end of the connecting strut.

**Claim 50.** An unexpanded stent constructed from a metal tube, the stent comprising:

a plurality of interconnected first expansion struts, the first expansion struts forming a closed, continuous first expansion column having a proximal end region and a distal end region, each first expansion strut connected at a proximal end to one first expansion strut adjacent thereto and at a distal end to another first expansion strut adjacent thereto;

a plurality of interconnected second expansion struts, the second expansion struts forming a closed, continuous second expansion column having a proximal end region and a distal end region, each second expansion strut connected at a

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proximal end to one second expansion strut adjacent thereto and at a distal end to another second expansion strut adjacent thereto;

a plurality of interconnected third expansion struts, the third expansion struts forming a closed, continuous third expansion column having a proximal end region and a distal end region, each third expansion strut connected at a proximal end to one third expansion strut adjacent thereto and at a distal end to another third expansion strut adjacent thereto;

a first connecting strut column consisting of a plurality of first connecting struts, each first connecting strut having a first end extending from the distal end region of the first expansion column at a location in closer proximity to one first expansion strut than to any other of the plurality of first expansion struts,

and a second end which is connected to the second expansion strut column at a second location, the first and second locations longitudinally and circumferentially offset from one another;

a second connecting strut column consisting of a plurality of second connecting struts, each second connecting strut having a first end extending from the distal end region of the second expansion column at a location in closer proximity to one second expansion strut than to any other of the plurality of second expansion struts, and a second end which is connected to the third expansion strut column a location which is longitudinally and circumferentially offset from the location of the first end of the connecting strut,

wherein the first and second expansion strut columns are connected to one another only via the first connecting strut column and the second and third expansion strut columns are connected to one another only via the second connecting strut column.

**Claim 51.** An unexpanded stent constructed from a tube, the stent comprising:

a first expansion column having a plurality of first expansion strut pairs, each first expansion strut pair including two interconnected first expansion struts, each first expansion strut pair open at a proximal end of the first expansion column and closed at a distal end of the first expansion column, first expansion strut pairs which are adjacent one another connected to one another at a proximal end of the first expansion column, the

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first expansion column defining a continuous closed path about the circumference of the stent;

a second expansion column having a plurality of second expansion strut pairs, each second expansion strut pair including two interconnected second expansion struts, each second expansion strut pair open at a distal end of the second expansion column and closed at a proximal end of the second expansion column, second expansion strut pairs which are adjacent one another connected to one another at a distal end of the second expansion column, the second expansion column distal to the first expansion column, the second expansion column defining a continuous closed path about the circumference of the stent;

a first connector column having a plurality of first connectors, each first connector extending from a distal end region of one first expansion strut pair to a proximal end region of one second expansion strut pair and directly connecting the one first expansion strut pair to the one second expansion strut pair, the one second expansion strut pair having a second expansion strut which is collinear with one of the first expansion struts of the one first expansion strut pair to which it is connected, a first end of the first connector connecting to the first expansion strut pair at a location which is longitudinally and circumferentially offset from a location at which the second end of the first connector connects to the second expansion strut pair.

**Claim 52.** The unexpanded stent of claim 51 wherein each first connector extends from a distal end of a first expansion strut to a proximal end of a second expansion strut.

**Claim 53.** The unexpanded stent of claim 51 wherein each connector includes a first linear section, a second linear section and a third linear section.

**Claim 54.** The unexpanded stent of claim 51 wherein a proximal end of each first connector extends from the first expansion column at an oblique angle relative to the longitudinal axis of the stent.

**Claim 55.** The unexpanded stent of claim 54 wherein a distal end of each first connector extends from the second expansion column at an oblique angle relative to the longitudinal axis of the stent.

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**Claim 56.** The unexpanded stent of claim 51 wherein each first connector includes at least one curved portion.

**Claim 57.** The unexpanded stent of claim 51 further comprising:

a third expansion column having a plurality of third expansion strut pairs, each third expansion strut pair including two interconnected third expansion struts, each third expansion strut pair open at a distal end of the third expansion column and closed at a proximal end of the third expansion column, third expansion strut pairs which are adjacent one another connected to one another at a distal end of the third expansion column, the third expansion column defining a continuous closed path about the circumference of the stent;

a second connector column having a plurality of second connectors, wherein each second connector extends from a proximal end region of one third expansion strut pair to a distal end region of one second expansion strut pair and directly connects the one third expansion strut pair to the one second expansion strut pair, the one second expansion strut pair having a second expansion strut which is collinear with one of the third expansion strut of the one third expansion strut pair to which it is connected, a second end of the second connector connecting to the third expansion strut pair at a location which is longitudinally and circumferentially offset from a location at which the first end of the second connector connects to the second expansion strut pair.

**Claim 58.** The stent of claim 57 wherein the first, second and third expansion struts are all parallel to the longitudinal axis of the stent and the second expansion column includes second expansion struts which do not have any first connectors extending directly therefrom and which do not have any second connectors extending directly therefrom.

**Claim 59.** The stent of claim 57 wherein the first, second and third expansion struts are all parallel to the longitudinal axis of the stent and the second expansion column includes second expansion struts which have a connector extending from a distal end thereof and a connector extending from a proximal end thereof.

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(ix) Evidence Appendix

NONE

MAR 05 2007

## (x) Related Proceedings Appendix

Redacted copies of decisions rendered by the courts in Cordis v. Boston Scientific (03-027-SLR) and Jang v. Boston Scientific (05-426-VAP) are presented below:

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

CORDIS CORPORATION,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civ. No. 03-027-SLR
	)	
BOSTON SCIENTIFIC CORPORATION )		
and SCIMED LIFE SYSTEMS, INC., )		
	)	
Defendants.	)	

## MEMORANDUM ORDER

At Wilmington this 3<sup>rd</sup> day of June, 2005, having heard oral argument and having reviewed the papers submitted in connection with the parties' proposed claim construction;

IT IS ORDERED that the disputed claim language in U.S. Patent Nos. 5,895,406 ("the '406 patent"), 5,922,021 ("the '021 patent") and 4,739,762 ("the '762 patent"), as identified by the above referenced parties, shall be construed consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit, as follows:

...

## C. Claim 23 of the '021 patent.

## 1. "Strut."

Consistent with the claim language and its ordinary meaning,<sup>13</sup> this court construes "strut" to mean "a structural member designed to withstand force."

2. "Expansion strut pair corners" and "corners" of "expansion strut pairs."

Consistent with the claim language and its ordinary meaning<sup>14</sup> and the specification,<sup>15</sup> this court construes "corners" to mean "a place where two surfaces meet to form an angle."

3. "A first connecting strut column formed of a plurality of first connecting struts."

Consistent with the claim language and its ordinary meaning<sup>16</sup> and the specification<sup>17</sup> this court construes this

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<sup>13</sup>D.I. 230, Ex. 4 (defining "strut" as "[a] structural member which is designed to take compression").

Cordis argues that the strut is designed to withstand pressure along its length. The specification, however, indicates that the stent is designed to withstand radial forces; limiting "strut" to structures that withstand pressure along their length is too narrow. ('021 patent, col. 3, ll. 24, 26, 46-47)

<sup>14</sup>D.I. 230, Ex. 5 at 452 (defining "corner" as "the place at which two converging lines or surfaces meet" and "the space between two converging lines or surfaces near their intersection; angle"); D.I. 233, Ex. 11 at 507 (defining "corner" as "the point or place where converging lines, edges or sides meet: ANGLE . . .").

<sup>15</sup>'021 patent, col. 11, ll. 66-67 - col. 12, ll. 11.

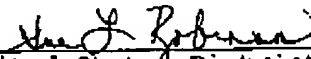
<sup>16</sup>BSC argues that this limitation should be construed simply as a "column . . . formed of connecting struts." This construction, however, is not consistent with the other claims. (See, e.g., '021 patent, col. 18, ll. 24-31; '021 patent, col. 22, ll. 42-52) (referring to "first connecting strut" as connecting the first expansion strut pair and second expansion

limitation to mean "a column formed of at least two first connecting struts."

4. "Wherein the first expansion strut of the first expansion strut pair in the first expansion column has a longitudinal axis offset from a longitudinal axis of the first expansion strut of the second expansion strut pair in the second expansion column."

Consistent with the claim language and its ordinary meaning and the specification<sup>18</sup> and prosecution history,<sup>19</sup> this court construes this limitation as meaning that "the first expansion strut in the first column does not share a longitudinal axis with the second expansion strut in the second column."

...

  
United States District Judge

strut pair). Without a clear indication in the specification that "first connecting struts" should be given a different meaning in different claims, it should be construed consistently throughout. See also, Frank's Casing Crew & Rental Tools, Inc. v. Weatherford Inter'l. Inc., 389 F.3d 1370, 1377 (Fed. Cir. 2004) (citation omitted). Thus, this court declines to adopt BSC's asserted construction of this limitation.

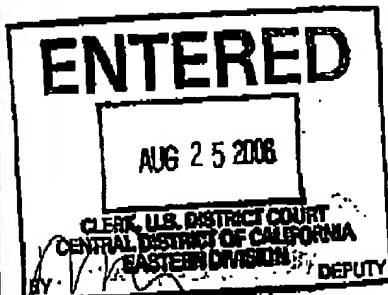
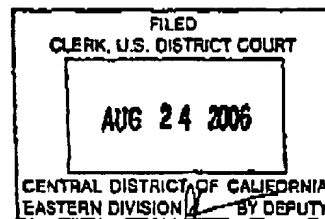
<sup>17</sup>'021 patent, col. 6, ll. 46-52 (defining the "first connecting strut" as the first strut in the column and "second connecting strut" as the second strut in the column).

<sup>18</sup>'021 patent, col. 6, ll. 53-55 (defining "offset" as not collinear).

<sup>19</sup>D.I. 233, Ex. 25 at JFH 192, 196, 209, 217.



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UNITED STATES DISTRICT COURT  
 CENTRAL DISTRICT OF CALIFORNIA

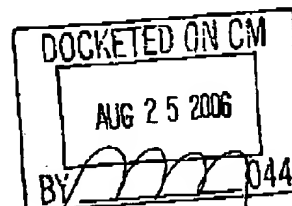
G. DAVID JANG, M.D.,  
 Plaintiff,

v.

BOSTON SCIENTIFIC  
 CORPORATION, a Delaware  
 corporation; SCIMED LIFE  
 SYSTEMS, INC., a  
 Minnesota corporation,  
 Defendants.

Case No. EDCV 05-426-  
 VAP (CTX)

CLAIM CONSTRUCTION ORDER



The Court conducted a hearing on May 30, 2006, on the parties' proposed constructions of certain terms in Claim 1 in the two patents at issue here,<sup>1</sup> pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir. 1995) (en banc) *aff'd*, 517 U.S. 370 (1996). Having considered the written submissions from both parties, as

<sup>1</sup>These are U.S. Patent Nos. 5,922,021, entitled "Intravascular Stent" ("the '021 patent") and 5,954,743, entitled "Intravascular Stent" ("the '743 patent"), attached to the Declaration of June T. Tai as Exhibits 1 and 2, respectively, and to the Declaration of John Nilsson as Exhibits A and B, respectively, referred to collectively in this Order as "the Jang patents."

(99)

1 well as the arguments presented at the hearing, the Court  
2 now issues its claim construction order.<sup>2</sup>

23 <sup>2</sup>The parties agree that the disputed terms have the  
24 same meaning in both the '021 and '743 patents. See Dr.  
25 Jang's Opening Claim Construction Brief ("Pl.'s Br.") at  
26 2; Defendants Boston Scientific Corp.'s and Scimed,  
Inc.'s Opening Claim Construction Brief ("Def'ts' Br." at  
1 fn.3.

2

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8

9

## II. CLAIM CONSTRUCTION

### 1. "Expansion Column"

11 The parties agree that the expansion columns consist  
12 of expansion pairs; they dispute, however, whether or not  
13 the expansion columns can contain structural members, or  
14 struts, other than expansion strut pairs, and whether the  
15 columns should be defined as "tubular." Thus, Plaintiffs  
16 ask the Court to adopt the following construction of this  
17 term: "a vertical extension of space around the  
18 circumference of the stent formed by two or more  
19 expansion strut pairs." [Pl.'s Br. at 18.] The defense  
20 seeks an order construing the term as follows: "a  
21 tubular structure formed solely by a plurality of  
22 expansion strut pairs arranged in a column along the  
23 circumference of the stent." [Def'ts' Br. at 24.]<sup>5</sup>

24

25 <sup>5</sup>The Court's resolution of the parties' dispute over  
26 the construction of this term also determines its  
27 construction of the following terms: (1) "expansion  
28 strut," for which Plaintiff seeks the following  
construction: "A strut that extends at least in part in  
the direction of the longitudinal axis of the unexpanded  
(continued...)

5

1 The language of the patent, including the Summary of  
2 the Invention as well as the specifications, supports  
3 Defendants' proposed construction.

4  
5 The Summary of the Invention, for example, mentions  
6 only expansion strut pairs - and no other structural  
7 member - in the description of the expansion columns.  
8 [See '021 Patent, Col. 3, lines 47-67, Col. 4, lines 1-  
9 8.] As the Federal Circuit explained in C.R. Bard, Inc.  
10 v. U.S. Surgical Corp., 388 F.3d 858, 864 (Fed. Cir.  
11 2004), "[a]lthough a statement's location is not  
12 'determinative,' the location can signal the likelihood  
13 that the statement will support a limiting definition of  
14 a claim term. Statements that describe the invention as  
15 a whole, rather than statements that describe only  
16 preferred embodiments, are more likely to support a  
17 limiting definition of a claim term." (Citations  
18 omitted.) And, as Defendants point out, all of the  
19 references to "expansion columns" in the patents mention  
20 only expansion strut pairs. See '743 patent, col. 5,  
21 lines 14-15, 29-38; col. 8, lines 8-21.

22 // // //

23

24

25 <sup>5</sup>(...continued)  
26 stent." [Pl.'s Br. at 16] and Defendants argue should be  
27 construed as follows: "A strut in an expansion column"  
28 [Def'ts' Br. at 35]; and (2) "expansion strut pair." For  
both of these terms, the Court adopts the defense's  
proposed construction.

1 Plaintiff also argues that Claim 1 of both patents  
2 recites that a plurality of expansion strut pairs form an  
3 expansion column, as opposed to reciting that the column  
4 is formed solely by a plurality of expansion strut pairs.  
5 [Pl.'s Br. at 18.] Plaintiff rests this argument, in  
6 part, on what he characterizes as the "comprising" nature  
7 of the claim; he contends that a comprising claim is  
8 "open" and additional elements may be added beyond those  
9 that are specifically recited in the claim. [Pl.'s  
10 Rebuttal Br. at 6.] Furthermore, he argues, one cannot  
11 avoid infringement by adding a feature to a patented  
12 invention, citing Lighting World, Inc. v. Birchwood  
13 Lighting, Inc., 382 F.3d 1354, 1365 (Fed. Cir. 2004).  
14 According to Dr. Jang, his patents do not disclaim  
15 inclusion of additional elements in expansion columns,  
16 and in fact teach that other elements may be added, such  
17 as radiopaque markers. [Plaintiff's Supplemental Claim  
18 Construction Brief ("Pl.'s Supp'l Br.") 7.]

19  
20 "When a patent claim uses the word 'comprising' as  
21 its transitional phrase, the use of 'comprising' creates  
22 a presumption that the body of the claim is open. In the  
23 parlance of patent law, the transition 'comprising'  
24 creates a presumption that the recited elements are only  
25 a part of the device, that the claim does not exclude  
26 additional, unrecited elements." Crystal Semiconductor  
27 Corp. v. TriTech Microelect. Int'l, Inc., 246 F.3d 1336

28

1 (Fed. Cir. 2001). Plaintiff relies too heavily on this  
2 concept, however; the Federal Circuit case law  
3 reiterates that mere presence of the transitional word  
4 "comprising" in the patent "does not free the claim from  
5 its own limitations." Kustom Signals, Inc. v. Applied  
6 Concepts, Inc., 264 F.3d 1326, 1332 (Fed. Cir. 2001).  
7

8 Only "expansion strut pairs"<sup>6</sup> are described in the  
9 claim language; as discussed above, nowhere does the  
10 patent describe any other structural member contained in  
11 the expansion columns. ['743 patent, col. 5, lines 14-  
12 15, 29-38; col. 8, lines 18-21.] The Court thus adopts  
13 Defendants' proposed construction of this claim term; for  
14 the foregoing reasons, it also adopts the defense's  
15 proposed definition of "expansion strut," i.e., "a strut  
16 in an expansion column."  
17

18 Plaintiff also objects that the patents neither  
19 describe nor define the expansion columns as "tubular  
20 structures." [Pl.'s Br. at 18.] In order to perform its  
21 intended function, i.e., to prop open the artery wall  
22 into which it has been inserted, the patented stent  
23 necessarily forms a tubular shape when fully expanded.  
24 The patent describes the role played by the expansion  
25 columns when the stent is expanded thus: "each expansion  
26

27 <sup>6</sup>The parties agree that "expansion strut pair"  
28 includes "joining struts" as well as "expansion struts."  
Def'ts' Br. at 24 fn. 13.

1 column 24 becomes circumferentially stretched...." ['021  
2 patent, col. 8, lines 34-38.] Each illustration of the  
3 expanded stent in the patent, showing the expansion  
4 columns, displays them in the form of a tubular  
5 structure.

6  
7 Accordingly, the Court adopts the proposed  
8 construction of this term advanced by the defense.

9  
10 2. "Connecting Strut Column"

11 The parties dispute two issues regarding construction  
12 of this term: whether the connecting struts must be  
13 attached to each other, and whether the columns must be  
14 defined as formed solely of connecting struts. Hence,  
15 Plaintiff proposes that this term be construed as  
16 follows: "A plurality of the first connecting strut  
17 forming a first connecting strut column," (Pl.'s Br. at  
18 23), whereas the defense offers the following  
19 construction: "A column formed solely of a plurality of  
20 connecting struts unattached to each other and arranged  
21 along the circumference of the strut." (Def'ts' Br. at  
22 26; emphasis added.)

23  
24 As to the first dispute, Plaintiff argues that  
25 Defendants base their proposed construction on an  
26 impermissible theory that the only embodiments disclosed  
27 in the Jang patents show connecting struts that are  
28

1 unattached to each other. [Pl.'s Br. at 23; Pl.'s Supp'l  
2 Br. at 14.] For support, Plaintiff cites to Liebel-  
3 Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed.  
4 Cir. 2004); there, the court expressly disavowed any  
5 "contention that if a patent describes only a single  
6 embodiment, the claims of the patent must be construed as  
7 being limited to that embodiment. . . . Even when the  
8 specification describes only a single embodiment, the  
9 claims of the patent will not be read restrictively  
10 unless the patentee has demonstrated a clear intention to  
11 limit the claim scope using 'words or expressions of  
12 manifest exclusion or restriction.'" (Citations  
13 omitted.) Relying on this passage, Plaintiff argues that  
14 Defendants have failed to point to any language in the  
15 patents where Dr. Jang summarizes his invention with  
16 limiting language, requiring that the connecting struts  
17 be unattached to one another. [Pl.'s Supp'l Br. at 14-  
18 15.))]

19  
20 Defendants' proposed definition does not run afoul of  
21 the proscription against unduly restrictive claim  
22 construction. First, as they point out, "every single  
23 figure in the Jang patents that shows 'connecting  
24 columns' . . . shows that the connecting struts forming  
25 those columns are not connected to each other, but rather  
26 (like prior art designs) connect the 'expansion columns'  
27 . . . on either side of them." [Def'ts' Br. at 26.] In  
28

1 other words, all of the figures in the specifications  
2 depicting the connecting columns portray those columns  
3 with connecting struts unattached to each other. All of  
4 the embodiments disclosed in these patents contain  
5 connecting columns with connecting struts which are  
6 unattached to each other; Plaintiff has not cited to a  
7 single instance in the specifications to support his  
8 contrary position. The specifications' descriptions of  
9 the connecting columns clearly state that the connecting  
10 struts are unattached to one another. Second, the  
11 Federal Circuit in the Phillips case had this to say  
12 regarding a lack of explicit language in the patent  
13 defining a claim term or disavowing a particular  
14 construction: "[R]equiring that any definition of claim  
15 language in the specification be express, is inconsistent  
16 with our rulings that the specification is 'the single  
17 best guide to the meaning of a disputed term.'"  
18 Phillips, 415 F.3d at 1321.

19  
20 The parties' second dispute revolves around whether  
21 or not connecting strut columns are composed solely of  
22 connecting strut pairs. Plaintiff correctly notes the  
23 similarity between this issue and that resolved above,  
24 i.e., whether the term "expansion column" should be  
25 construed as composed only of expansion strut pairs.  
26 Again, however, the specifications, illustrations, and  
27 Summary of the Invention all uniformly and consistently  
28



1 show and define the connecting strut columns as composed  
2 only of connecting strut pairs. Thus, the authorities  
3 cited above support Defendants' proposed construction.

4  
5 Finally, Defendants argue strenuously that to accept  
6 Plaintiff's proposed construction would "collapse the  
7 structural distinction between connecting struts and  
8 expansion struts, and between expansion columns and  
9 connecting columns," and thus "broaden[] the claims to  
10 cover prior art stents, even ones with very different  
11 architectures." [Def'ts' Br. at 32.] This, Defendants  
12 point out, would run the risk that the patent claims in  
13 the Jang patents now assigned to them would be rendered  
14 invalid as disclosed by or obvious under the prior art,  
15 an inequitable result according to the Supreme Court in  
16 Westinghouse v. Formica, 266 U.S. 342 (1924).

17  
18  
19 3. "Connecting Strut"

20 Plaintiff offers this construction of the term  
21 "connecting strut": "a strut that couples an expansion  
22 strut pair in one expansion column with an expansion  
23 strut pair in another expansion column." Defendants ask  
24 the Court to construe this term as follows: "A strut  
25 that connects adjacent expansion columns."

26 // // //

27

28

1 All of the embodiments disclosed in the Jang patents  
2 depict "connecting struts" connecting adjacent columns;  
3 the language in the specifications and the Summary of the  
4 Invention likewise consistently state that the  
5 "connecting struts" connect adjacent expansion columns.  
6 Plaintiff argues that all these reflect only "preferred  
7 embodiments," upon which Defendants are relying in an  
8 approach specifically disapproved by Phillips.

9  
10 The Federal Circuit last year reiterated that the  
11 "words of the claim are generally given their ordinary  
12 and customary meaning," i.e., the meaning the term would  
13 have to a person of ordinary skill in the art in question  
14 at the time of the invention, "who views the claim term  
15 in the light of the entire intrinsic record. . . Thus,  
16 the claims 'must be read in view of the specification, of  
17 which they are a part.'" Nystrom, 424 F.3d at 1142  
18 (citing Phillips, 415 F.3d at 1316, and Markman, 52 F.3d  
19 at 979). The entire intrinsic record here supports  
20 Defendants' proposed construction: that "connecting  
21 strut" means a strut that connects adjacent expansion  
22 columns. Accordingly, the Court adopts that definition  
23 of this term.

24  
25 **4. Other Terms**

26 The parties dispute a few other terms, some of which  
27 the Court finds need not be construed.

28

1       a.   "proximal" and "distal"

2       The construction proposed by Plaintiff is that  
3 consistent with the language in the patents, and  
4 accordingly the Court adopts Plaintiff's construction of  
5 these two terms, i.e.,

6  
7       b.   "radius of curvature"

8       In support of its proposed construction of this term,  
9 Plaintiff cites the Court to a dictionary definition,  
10 i.e., Webster's Third New International Dictionary: "the  
11 reciprocal of the curvature of a curve," and proposes  
12 that the term be construed as "a mathematical measurement  
13 of the curvature of a curve; specifically, the reciprocal  
14 of the curvature of a curve." Defendants propose that  
15 the term be construed to mean "a smooth curve."

16  
17       Plaintiff's proposed definition is more precise and  
18 is consistent with the language and specifications in the  
19 patent, and the Court hereby adopts it.

20  
21       c.   Terms for which no construction is needed

22       The remaining terms need no construction by the  
23 Court: "comprising," "column," "longitudinal axis," and  
24 "...the first expansion strut of the first expansion  
25 strut pair...has a longitudinal axis offset from a

26  
27       As noted above, however, the relevant case law  
28 defines this term in "patent law parlance."

1 longitudinal axis of the first expansion strut of the  
2 second expansion strut pair...."

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Dated: August 23, 2004

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Virginia A. Phillips  
VIRGINIA A. PHILLIPS  
United States District Judge

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